

Name: _____ TP: _____

FORM A

HW# 86: Vol. & SA of Spheres

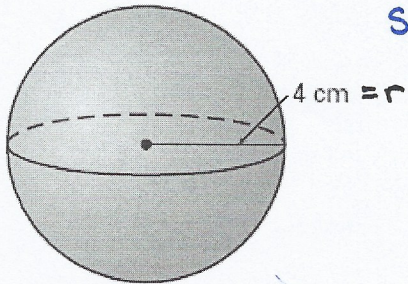
Due: Thursday, April 17th

Geometry

Failure to show all work and write in complete sentences will result in a LaSalle!

$$\text{SA (Sphere)} = 4\pi r^2 \quad \text{Vol. (Sphere)} = \frac{4}{3}\pi r^3$$

1) Find the surface area and volume of the sphere.

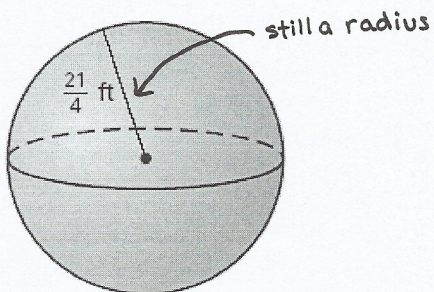


SA =

Volume =

Surface Area: _____ Volume: _____

2) Find the surface area and volume of the sphere.



SA =

Volume =

Surface Area: _____ Volume: _____

BE ZESTY

3) What is the approximate radius of a sphere with a volume of 128π cubic centimeters?

- A. 2.5 cm
- B. 4.58 cm
- C. 6.62 cm
- D. 8 cm

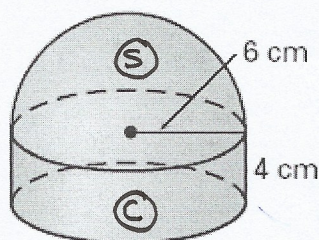
$$\text{Volume} = \frac{4}{3} \pi r^3$$

Solve for r

$$\frac{128\pi}{\pi} = \frac{\frac{4}{3} \pi r^3}{\pi}$$

$$128 = \frac{4}{3} r^3$$

4) Find the surface area and the volume of the solid. The cylinders and cones are right. Round your answer to two decimal places.



Surface Area

$$SA(S) = 4\pi r^2 \div 2$$

$$SA(S) =$$

$$SA(S) =$$

$$SA(C) = \pi r^2 + 2\pi rh$$

$$SA(C) =$$

$$SA(C) =$$

$$SA(C) =$$

divide by 2
b/c half of
sphere

normally $2\pi r^2$
but one circle
is covered

Volume

$$V(S) = \frac{4}{3} \pi r^3 \div 2$$

$$V(S) =$$

$$V(S) =$$

$$V(C) = \pi r^2 h$$

$$V(C) =$$

$$V(C) =$$

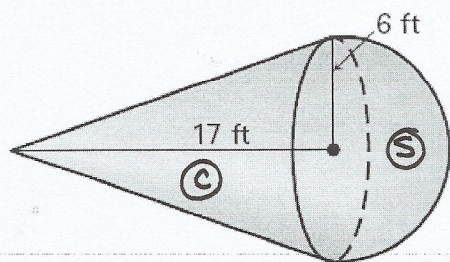
Surface Area:

$$+ +$$

Volume:

$$+ +$$

5) Find the surface area and the volume of the solid. The cylinders and cones are right. Round your answer to two decimal places.



Surface Area

$$SA(S) = 4\pi r^2 \div 2$$

$$SA(S) =$$

$$SA(S) =$$

$$SA(C) = \pi r (r + \sqrt{h^2 + r^2}) - \pi r^2$$

$$SA(C) =$$

$$SA(C) =$$

$$SA(C) =$$

Volume

$$V(S) = \frac{4}{3} \pi r^3 \div 2$$

$$V(S) =$$

$$V(S) =$$

$$V(C) = \frac{1}{3} \pi r^2 h$$

$$V(C) =$$

$$V(C) =$$

$$V(C) =$$

Surface Area:

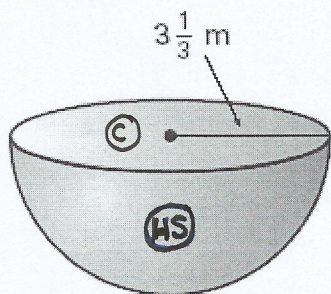
$$+ +$$

Volume:

$$+ +$$

BE ZESTY

6) Find the surface area and volume of the hemisphere. Round your answer to two decimal places.



Surface Area
 $SA_{HS} = 4\pi r^2 \div 2$

Volume
 $V_{HS} = \frac{4}{3}\pi r^3 \div 2$

$SA_{HS} =$

$SA_C = \pi r^2$

$V_{HS} =$

$SA_C =$

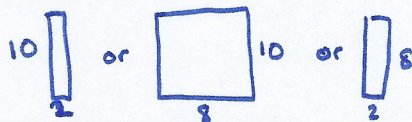
Surface Area: +

Volume:

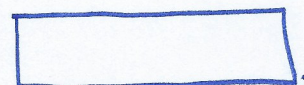
7) Brandon is going to cover his bathroom with tiles, and he plans to put the tiles next to each other so there is no space in between them. The tiles are rectangular prisms that are 2 centimeters tall by 10 centimeters wide by 8 centimeters long. If Brandon's bathroom is a square that measures 4 meters by 4 meters, what is the minimum number of tiles he will need to fully cover his bathroom floor?

Step 1: Find MAX surface area of the tile.

Which face of the tile has the greatest surface area?



The greatest surface area is



Step 2: Find area of ~~the~~ bathroom.

First, convert the units into centimeters.

4 meters = _____ centimeters

4 meters = _____ centimeters

What is the area of the bathroom in cm?

_____ x _____ =

Step 3: Check convert units if needed

Skip

Step 4: Find # of tiles

Bricks =

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8) Find the volume of the following shapes. Round to the nearest hundred.

What is the volume of the space between the two solids?

Volume of the triangular prism equals base \times height.

$$V = BH$$

↓

$$V = \left(\frac{1}{2}bh\right)H$$

$$V = \left(\frac{1}{2} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}\right) \underline{\hspace{1cm}}$$

$$V =$$

Volume of the cylinder equals base \times height.

$$V = BH$$

$$V = (\pi r^2)H$$

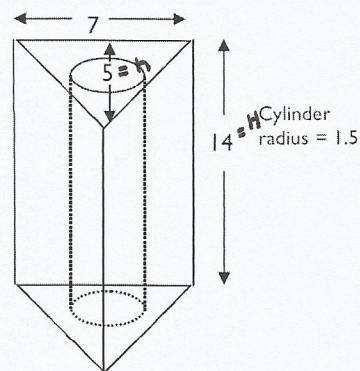
$$V =$$

$$V =$$

Volume of the space =

-

Volume of the space =



BE ZESTY